

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

Claim 1. (original) A drug eluting stent-graft, comprising:

a tubular stent having a proximal end, a distal end, a lumen therebetween, and a peripheral wall defining the lumen, wherein the peripheral wall comprises a plurality of openings, a biocompatible covering surrounding the stent comprising a textured external surface layer, and a smooth luminal surface layer facing the lumen of the stent,

a collar coupled to the proximal end of the stent, the collar comprising a wire structure surrounded by the biocompatible covering, an atraumatic proximal end, and a distal end, wherein the distal end of the collar is coupled to the proximal end of the stent, and

a drug agent configured to elute from the textured external surface layer and away from the smooth luminal surface layer of the covering.

Claim 2. (original) The stent-graft of claim 1, wherein the wire structure of the collar is spiral-wound radially in a tubular plane coaxial with the central axis of the stent.

Claim 3. (original) The stent-graft of claim 1, further comprising a plurality of barbs disposed on the distal end of the collar and expandable radially outwardly to anchor the stent-graft to an interior body wall.

Claim 4. (original) The stent-graft of claim 1, wherein the drug agent is a drug chosen from the group consisting of paclitaxel, sirolimus, an anti-metabolite drug, an antibiotic, a steroid, and a biologically active agent.

Claim 5. (original) The stent-graft of claim 1, wherein the drug agent is disposed between the textured external surface layer and the smooth luminal surface layer of the covering.

Claim 6. (original) The stent-grant of claim 1, wherein the biocompatible covering comprises ePTFE.

Claim 7. (original) The stent-graft of claim 1, wherein the textured external surface layer of the covering comprises a plurality of villi oriented away from the peripheral wall of the stent.

Claim 8. (original) The stent-graft of claim 7, wherein the plurality of villi form a plurality of interstices.

Claim 9. (original) The stent-graft of claim 7, wherein the plurality of villi comprise villi of varying lengths.

Claim 10. (original) The stent-graft of claim 7, wherein the plurality of villi comprise villi of uniform length.

Claim 11. (original) The stent-graft of claim 8, wherein the drug agent is disposed within the plurality of interstices.

Claim 12. (original) The stent-graft of claim 1, wherein the textured external surface layer of the covering comprises a plurality of filaments.

Claim 13. (original) The stent-graft of claim 12, wherein the drug agent is disposed on the filaments.

Claim 14. (original) The stent-graft of claim 1, wherein the textured external surface layer of the covering comprises:

a plurality of individual polygonal shaped cups, each of the cups having a bottom surface, raised side walls, and a plurality of filaments disposed on the bottom surface, wherein neighboring cups have adjacent side walls.

Claim 15. (original) The stent-graft of claim 14, wherein the drug agent is disposed on the filaments.

Claim 16. (original) The stent-graft of claim 1, wherein the textured external surface layer of the covering comprises a plurality of nested geometric cells having an intercellular space between each cell.

Claim 17. (original) The stent-graft of claim 16, wherein the drug agent is disposed within the intercellular space between each cell of the plurality of nested geometric cells.

Claim 18. (original) The stent-graft of claim 1, wherein the smooth luminal surface layer of the covering comprises a smooth surface.

Claim 19. (original) The stent-graft of claim 1, comprising a plurality of rings of barbs extending along the length of the stent-graft.

Claim 20. (original) The stent-graft of claim 1, wherein the stent is formed from a material chosen from the group consisting of nitinol, titanium, tantalum, niobium, and stainless steel.

Claim 21. (original) The stent-graft of claim 1, comprising a spot weld at a plurality of openings of the peripheral wall of the stent to secure the textured external surface layer of the covering to the smooth luminal surface layer of the covering.

Claim 22. (original) The stent-graft of claim 21, wherein the spot weld is a spot weld chosen from the group consisting of a sintered spot weld, an epoxy application, and an adhesive agent application.

Claim 23. (original) The stent-graft of claim 1, wherein the drug comprises a freeze-dried form of the drug.

Claim 24. (original) The stent-graft of claim 1, wherein the covering comprises a separate textured external surface layer and a separate smooth luminal surface layer.

Claim 25. (original) The stent-graft of claim 1, wherein the covering comprises a continuous sheet of biocompatible material having the textured external surface layer and the smooth luminal surface layer.

Claim 26. (original) A stent-graft, comprising:

a tubular stent having a proximal end, a distal end, a lumen therebetween, and a peripheral wall defining the lumen, wherein the peripheral wall comprises a plurality of openings,

a biocompatible textured external surface layer surrounding an outer surface of the peripheral wall of the stent,

a biocompatible smooth luminal surface layer surrounding an inner surface of the peripheral wall of the stent, and

a collar having a wire structure surrounded by the biocompatible textured external surface layer and the biocompatible smooth luminal surface layer, an atraumatic proximal end, and a distal end coupled to the proximal end of the stent, wherein the collar is configured to expand and contract in conformity with the stent.

Claim 27. (original) The stent-graft of claim 26, wherein the wire structure of the collar comprises a plurality of loops, each loop having a proximal end and a distal end.

Claim 28. (original) The stent-graft of claim 27, wherein the proximal end of each loop is oriented perpendicular to the central axis of the lumen of the stent.

Claim 29. (original) The stent-graft of claim 27, wherein the distal end of each loop comprises two barbs.

Claim 30. (original) The stent-graft of claim 29, wherein the barbs extend radially away from the stent-graft, and are configured to engage a wall of a body lumen.

Claim 31. (original) The stent-graft of claim 26, wherein the atraumatic proximal end of the collar comprises a leading edge of biocompatible material coupled to the proximal end of the collar and extending proximal from the wire structure.

Claim 32. (original) The stent-graft of claim 31, wherein the leading edge has a diameter larger than a diameter of the wire structure.

Claim 33. (original) The stent-graft of claim 26, further comprising a drug agent disposed on the textured external surface layer, wherein the drug is configured to elute from the textured external surface layer and away from the smooth luminal surface layer.

Claim 34. (original) The stent-graft of claim 26, further comprising a drug agent disposed between the textured external surface layer and the smooth luminal surface layer, wherein the drug agent is configured to elute from the textured external surface layer and away from the smooth luminal surface layer.

Claim 35. (original) The stent-graft of claim 26, further comprising a freeze-dried drug agent configured to elute from the textured external surface layer toward the body lumen wall and away from the smooth luminal surface layer, the drug agent being an agent chosen from the group consisting of paclitaxel, sirolimus, an anti-metabolite drug, an antibiotic, a steroid, and a biologically active agent.

Claim 36. (original) The stent-graft of claim 26, wherein the textured external surface layer and the smooth luminal surface layer comprise a single biocompatible covering.

Claim 37. (original) The stent-graft of claim 26, wherein the textured external surface layer incorporates a texture chosen from the group consisting of a plurality of villi, a plurality of filaments, a plurality of polygonal shaped cups, and a plurality of geometric nested cells.

Claim 38. (original) The stent-graft of claim 26, wherein the stent is formed from a material chosen from the group consisting of nitinol, titanium, tantalum, niobium, and stainless steel.

Claims 39-49 (cancelled).